

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
WACO DIVISION

PARKERVISION, INC.,

Plaintiff,

v.

INTEL CORPORATION,

Defendant.

Case No. 6:20-cv-00562

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff ParkerVision, Inc. ("ParkerVision"), by and through its undersigned counsel, files this Complaint against Defendant Intel Corporation ("Intel") for patent infringement of United States Patent No. 6,049,706 ("the '706 patent") and alleges as follows:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq.*

PARTIES

2. Plaintiff ParkerVision is a Florida corporation with its principal place of business at 9446 Philips Highway, Jacksonville, Florida 32256.

3. On information and belief, Defendant Intel is a Delaware corporation with a place of business at 2200 Mission College Boulevard, Santa Clara, California 95054.

4. On information and belief, Intel has places of business in this judicial district: 1300 S Mopac Expressway, Austin, Texas 78746; 6500 River Place Blvd, Bldg 7, Austin, Texas 78730 and 5113 Southwest Parkway, Austin, Texas 78735 (collectively, “Austin Offices”). <https://www.intel.com/content/www/us/en/location/usa.html>.

5. Intel can be served with process through its registered agent for service in Texas: CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

6. On information and belief, since April 1989, Intel has been registered to do business in the State of Texas under Texas Taxpayer Number 19416727436.

JURISDICTION AND VENUE

7. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) because the action arises under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq.*

8. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b), (c), (d) and/or 1400(b).

9. Intel is subject to this Court’s personal jurisdiction, in accordance with due process and/or the Texas Long Arm Statute because Intel “[r]ecruits Texas residents, directly or through an intermediary located in this state, for employment inside or outside this state.” *See* Tex. Civ. Prac. & Rem. Code § 17.042.

10. This Court has personal jurisdiction over Intel because Intel has sufficient minimum contacts with this forum as a result of business conducted within the State of Texas and this judicial district. In particular, this Court has personal jurisdiction over Intel because, *inter alia*, Intel, on information and belief: (1) has substantial, continuous,

and systematic business contacts in this judicial district; (2) owns, manages and operates facilities in this judicial district; (3) enjoys substantial income from its operations in this judicial district, and (4) employs Texas residents in this judicial district.

11. Intel has purposefully availed itself of the privileges of conducting business within this judicial district; has established sufficient minimum contacts with this judicial district such that it should reasonably and fairly anticipate being hauled into court in this judicial district; has purposefully directed activities at residents of this judicial district; and at least a portion of the patent infringement claims alleged in this Complaint arise out of or are related to one or more of the foregoing activities.

12. This Court also has personal jurisdiction over Intel because Intel, directly and/or through its subsidiaries, affiliates, or intermediaries, makes, uses, offers for sale, sells, imports, advertises, makes available and/or markets infringing products in the United States, the State of Texas and/or this judicial district, as described more particularly below.

13. On information and belief, Intel maintains a significant physical presence in this judicial district.

14. On information and belief, Intel uses its Austin Office as a regular and established place of business. On information and belief, Intel has employed over 1700 employees in the Austin area. <https://www.linkedin.com/company/intel-corporation/people/?facetGeoRegion=us%3A64>.

15. Intel describes its operations in Austin on its website: “Located in the capitol city of Texas, Intel Austin is an important research and development center for the Intel technology that is changing the way we live, work, and play. Among the innovations developed in Austin are core technologies for next-generation microprocessors, platforms and base software; groundbreaking silicon solutions for computing and communications devices, which include handheld computing and cellular communications; and cutting-edge network storage products.”

<https://www.intel.com/content/www/us/en/jobs/locations/united-states/sites/austin.html>.

16. On information and belief, Intel has hundreds of H-1B labor condition applications for people employed in Austin, Texas. https://h1bsalary.online/search?%20searchtext=INTEL+CORPORATION&year=&minsalary=&state=&worksite_city=AUSTIN&job_title=. Employees holding an H-1B visa are employed in a specialty occupation that requires “theoretical and practical application of a body of highly specialized knowledge . . . and attainment of a bachelor’s or higher degree in the specific specialty.” *See generally* 8 U.S.C. § 1184. As such, Intel employees in Austin, Texas are highly specialized and important to the operation of Intel.

17. Intel lists job openings on its website for positions in Austin, Texas.

The screenshot shows the Intel Careers website. The header includes the Intel logo and navigation links. The main content area displays a list of job openings in Austin, TX. The table below summarizes the job listings shown on the page.

Job Title	Country/Region	City	State	Multiple Locations	Job Type
JR0125426 - GPU Compute Software Development Engineer	US	Austin	TX		Experienced Hire
JR0124217 - SOC Power Estimation and Power Management Architect	US	Austin	TX	US, Oregon, Hillsboro	Experienced Hire
JR0125389 - Software Engineering Intern	US	Austin	TX		Intern
JR0111562 - Sr. Graphics Software Engineer	US	Austin	TX	US, Pennsylvania, Allentown; US, Oregon, Hillsboro; US, Utah, Lehi; US, California, Santa Clara; US, California, Folsom;	
JR0124439 - Software Memory Compiler Engineer	US	Austin	TX	US, Oregon, Portland	Experienced Hire
JR0121628 - JIT Compiler Engineer	US	Austin	TX		Experienced Hire
JR0113409 - System and Performance Validation Engineer	US	Austin	TX		Experienced Hire
JR0120079 - MPE MNC Product Development Engineer	US	Austin	TX		Experienced Hire
JR0120077 - Product Development Engineer	US	Austin	TX		Experienced Hire
JR0120071 - Product Development Engineer	US	Austin	TX		Experienced Hire
JR0120074 - Product Development Engineer	US	Austin	TX		Experienced Hire
JR0120072 - Product Development Engineer	US	Austin	TX		Experienced Hire
JR0120070 - Product Development Engineer	US	Austin	TX		Experienced Hire
JR0118274 - Physical Design Engineer	US	Austin	TX		College Grad

Showing jobs 1 - 14 of 14

On the right side of the screenshot, there is a section titled "EMPLOYEE RATINGS & REVIEWS" featuring a quote: "Awesome place for engineering and freedom of thought/learning" and a Glassdoor rating of 4.5 stars. Below the quote, it says "Current Employee" and "Reviewed Feb 09, 2017". The review text reads: "Pros: Strong business orientation; Loads of resources available for ones self learning and growth; No one constraints you with any thing; HR is very empowering for Employees - Full Review". It also mentions "More Intel Corporation Ratings & Reviews (14,332)".

<https://jobs.intel.com/ListJobs/All/Search/state/tx/> (visited on 1/7/2020).

18. On information and belief, Intel has litigated/is litigating cases before this Court in which it admitted that venue was proper, did not contest personal jurisdiction, and/or filed counterclaims. *See, e.g., Flash-Control, LLC v. Intel Corp.*, Case No. 1:19-cv-01107 (W.D. Tex.); *VLSI Tech. LLC v. Intel Corp.*, Case No. 1:19-cv-00977 (W.D. Tex.).

BACKGROUND

19. In 1989, Jeff Parker and David Sorrells started ParkerVision in Jacksonville, Florida. Through the mid-1990s, ParkerVision focused on developing

commercial video cameras, e.g., for television broadcasts. The cameras used radio frequency (RF) technology to automatically track the camera's subject.

20. When developing consumer video cameras, however, ParkerVision, encountered a problem – the power and battery requirements for RF communications made a cost effective, consumer-sized product impractical. So, Mr. Sorrels and ParkerVision's engineering team began researching ways to solve this problem.

21. At the time, a decade's-old RF technology called super-heterodyne dominated the consumer products industry. But this technology was not without its own problems – the circuitry was large and required significant power.

22. From 1995 through 1998, ParkerVision engineers developed an innovative method of RF direct conversion by a process of sampling a RF carrier signal and transferring energy to create a down-converted baseband signal.

23. After creating prototype chips and conducting tests, ParkerVision soon realized that its technology led to improved RF receiver performance, lower power consumption, reduced size and integration benefits. In other words, RF receivers could be built smaller, cheaper and with greater improved performance.

24. ParkerVision's innovations did not stop there. ParkerVision went on to develop additional RF down-conversion technologies, RF up-conversion technologies and other related direct-conversion technologies. ParkerVision also developed complementary wireless communications technologies that involved interactions, processes, and controls between the baseband processor and the transceiver, which improved and enhanced the operation of transceivers that incorporate ParkerVision's

down-converter and up-converter technologies. To date, ParkerVision has been granted over 200 patents related to its innovations including, the '706 patent.

25. After spending millions of dollars developing RF technologies, ParkerVision sought to partner with larger, well-established companies who could use ParkerVision's innovations to manufacture highly integrated circuits on a large scale for the consumer market. In the late 1990s, ParkerVision began meeting with companies such as Qualcomm, an industry leader in RF chip technology.

26. Qualcomm quickly recognized the significance of ParkerVision's direct-conversion technology. In internal communications, Qualcomm engineers and senior executives lauded ParkerVision's technology: "This is virtually the holy grail of RF receiver designs -- achievable and within practical limits!"; "[w]e are very impressed with the performance! We can make a phone with [ParkerVision's] parts with higher dynamic range than today's phones" and "[t]he truth is Parker Vision have [sic] stumbled on something revolutionary." After testing ParkerVision's technology, a Qualcomm senior executive and former engineer stated "[t]o tell you the truth, I am more of a believer now than when I started talking with [ParkerVision]" and Qualcomm's then-division President stated "this is critical technology that we must land based on what we have seen so far. It offers revolutionary rf versus power performa[n]ce based on early te[s]t resul[t]s."

27. Qualcomm and ParkerVision never entered into an agreement.

28. Then, in the mid-2000s, with the rise in popularity of smartphones, there became a critical need for smaller, more efficient receivers capable of supporting

multiple frequency bands. ParkerVision's technology addressed this need.

29. In 2011, a ParkerVision engineer found a Qualcomm conference paper describing Qualcomm's then-current RF technology. The technology was strikingly similar to the technology that ParkerVision disclosed to Qualcomm years earlier. Through reverse engineering of Qualcomm's RF chips, ParkerVision confirmed that Qualcomm had been using ParkerVision's patented technology. And, Qualcomm has enjoyed great financial success by doing so. ParkerVision sued Qualcomm and its customers for patent infringement and has been locked in litigation ever since.

30. The damage to ParkerVision, however, was already done. On information and belief, seeing Qualcomm's success, other chip manufacturers such as Intel shifted to using ParkerVision's technology. This shift in the industry ultimately led to the abandonment of super-heterodyne technology.

31. ParkerVision's technology helped make today's mobile devices, such as smart phones and tablets, a reality by enabling RF chips used in these devices to be smaller, cheaper, and more efficient, and with higher performance.

INTEL CHIPS

32. Until recently, Intel (or those acting on its behalf) made, used, sold, offered to sell and/or imported RF transceiver chips/modems, for example, for use in smartphones. These chips include, without limitation, the Intel PMB 5750, PMB 5757 and PMB 5762 (each an "Intel Chip"; collectively, the "Intel Chips").

33. Intel Chips provide cellular connectivity for devices such as Apple iPhones.

34. On information and belief, the PMB 5750 was incorporated into devices including, without limitation, the Apple iPhone 7 and 7 Plus.¹ On information and belief, the PMB 5757 was incorporated into devices including, without limitation, the Apple iPhone 8, 8 Plus and X.² On information and belief, the PMB 5762 was incorporated into devices including, without limitation, the Apple iPhone XR, XS and XS Max.³

35. On information and belief, in December 2019, Apple acquired Intel's smartphone modem business for \$1 billion. <https://www.engadget.com/2019-12-02-apple-owns-intel-modem-business.html>.

THE ASSERTED PATENT

United States Patent No. 6,049,706

36. On April 11, 2000, the United States Patent and Trademark Office duly and legally issued United States Patent No. 6,049,706 ("the '706 patent") entitled "Integrated Frequency Translation and Selectivity" to inventor Robert W. Cook et al.

¹ See Wegner et al., *Apple iPhone 7 Teardown*, TechInsights (Sept. 15, 2016), <https://techinsights.com/blog/apple-iphone-7-teardown>; see also Srivatsan Sridhar, *Apple iPhone 7 and 7 Plus teardown confirms bigger battery, Intel LTE modem in some models and more*, FoneArena (Sept. 16, 2016), <https://www.fonearena.com/blog/197580/apple-iphone-7-and-7-plus-teardown-confirms-bigger-battery-intel-lte-modem-in-some-models-and-more.html>.

² See Yang et al., *Apple iPhone X Teardown*, TechInsights (last modified Nov. 8, 2017), <https://www.techinsights.com/blog/apple-iphone-x-teardown>.

³ See *iPhone XS and XS Max Teardown*, iFixit (Sept. 21, 2018), <https://www.ifixit.com/Teardown/iPhone+XS+and+XS+Max+Teardown/113021>; *iPhone XR Teardown*, iFixit (Oct. 26, 2018), <https://www.ifixit.com/Teardown/iPhone+XR+Teardown/114123>.

37. The '706 patent is presumed valid under 35 U.S.C. § 282.

38. ParkerVision owns all rights, title, and interest in the '706 patent.

CLAIMS FOR RELIEF

COUNT I - Infringement of United States Patent No. 6,049,706

39. The allegations set forth above are re-alleged and incorporated by reference as if they were set forth fully here.

40. Intel directly infringes (literally and/or under the doctrine of equivalents) the '706 patent by making, using, selling, offering for sale, and/or importing into the United States products covered by at least claim 1 of the '706 patent.

41. Intel products that infringe one or more claims of the '706 patent include, but are not limited to, the Intel Chips, and any other Intel device that is capable of filtering and down-converting a higher-frequency signal to a lower-frequency signal as claimed in the '706 patent. On information and belief, Intel uses the Intel Chips at least by testing the Intel Chips in the United States.

42. Each Intel Chip is/includes an apparatus for filtering and down-converting (e.g., a higher frequency RF signal to a lower frequency signal). Each Intel Chip includes a frequency translator, comprising a down-convert and delay module to under-sample an input signal (e.g., high frequency RF signal) to produce an input sample of a down-converted image of said input signal, and to delay said input sample. Each Intel Chip also includes a filter, comprising at least a portion of said down-convert and delay module, at least one delay module to delay instances of an output signal, and an adder (e.g., operational amplifier with parallel resistor-capacitor feedback) to

combine at least said delayed input sample with at least one of said delayed instances of said output signal to generate an instance of said output signal.

43. The down-convert and delay module under-samples (e.g., at a sample rate below the Nyquist rate) said input signal according to a control signal (e.g., local oscillator (LO) signal), wherein a frequency of said control signal is equal to a frequency of said input signal plus or minus a frequency of said down-converted image, divided by n , where n represents a harmonic or sub-harmonic of said input signal.

44. ParkerVision has been damaged by the direct infringement of Intel and is suffering and will continue to suffer irreparable harm and damages as a result of this infringement.

JURY DEMANDED

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, ParkerVision hereby requests a trial by jury on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, ParkerVision respectfully requests that the Court enter judgment in its favor and against Intel as follows:

- a. finding that Intel directly infringes one or more claims of the '706 patent;
- b. awarding ParkerVision damages under 35 U.S.C. § 284, or otherwise permitted by law, including supplemental damages for any continued post-verdict infringement;
- c. awarding ParkerVision pre-judgment and post-judgment interest on the damages award and costs;

- d. awarding cost of this action (including all disbursements) and attorney fees pursuant to 35 U.S.C. § 285, or as otherwise permitted by the law; and
- e. awarding such other costs and further relief that the Court determines to be just and equitable.

Dated: June 24, 2020

Respectfully submitted,

THE MORT LAW FIRM, PLLC

Of Counsel:

Ronald M. Daignault*
Chandran B. Iyer*
Jason S. Charkow*
GOLDBERG SEGALLA
rdaignault@goldbergsegalla.com
ciyer@goldbergsegalla.com
jcharkow@goldbergsegalla.com
711 Third Avenue, Suite 1900
New York, New York 10017
Telephone: (646) 292-8700

/s/Raymond W. Mort, III
Raymond W. Mort, III
Texas State Bar No. 00791308
raymort@austinlaw.com
100 Congress Avenue, Suite 2000
Austin, Texas 78701
Tel/Fax: 512-865-7950

Stephanie R. Mandir*
GOLDBERG SEGALLA
smandir@goldbergsegalla.com
Reston Tower Center, 11921 Freedom Dr.
Reston, VA 20190
Telephone: (646) 292-8700

Attorneys for Plaintiff ParkerVision, Inc.

**pro hac vice* motion to be filed